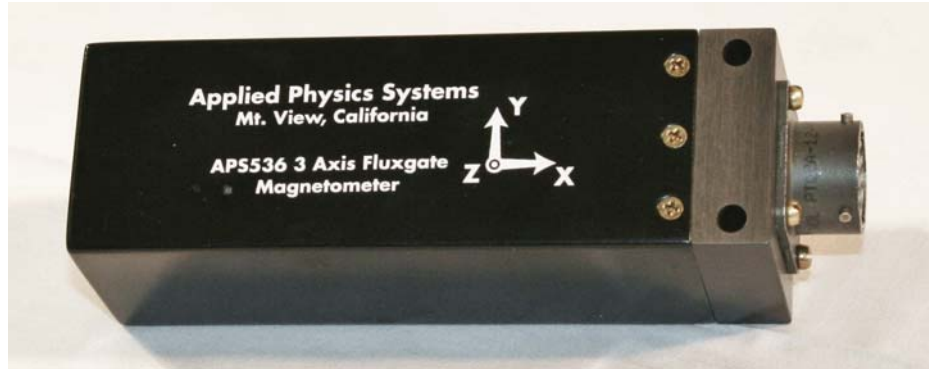


Features

- Complete 3-axis system
- Compact size, rugged construction
- Operates from ± 15 VDC
- Low noise level
- Measures up to ± 1 Gauss
- Easy to set up, easy to use

Applications

- Fluxgate compass systems
- Magnetic anomaly detection
- Measurement of the Earth's magnetic field



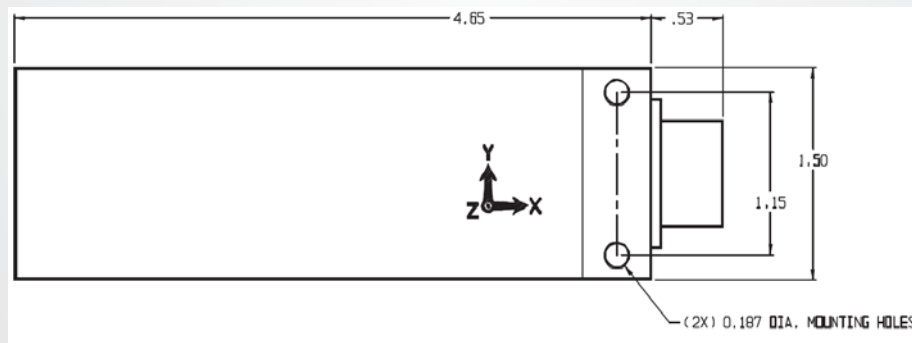
With low noise and small size, use the Model 536 wherever small magnetic fields (3×10^{-7} to 1 Gauss) need to be measured.

Output from the sensor is 3 analog voltages, proportional to the magnetic field in three orthogonal directions. Full scale output is ± 10 volts, which represents a magnetic field of ± 1 Gauss.

An optional temperature sensor can be added to the 536. This sensor is implemented by using an Analog Devices AD592. The temperature output is represented by an analog voltage present on pin A of the system Bendix connector. The temperature output signal is proportional to the absolute temperature; scale factor is 5 mV/ $^{\circ}$ K. At room temperature (20° C or 293° K) the temperature output voltage is 1.465V.

The Model 536 is powered from bipolar ± 15 VDC supplies. Two internal regulators are present in the 536, which produce ± 12 VDC for internal use. Connection to the 536 is accomplished by means of a 10 pin Bendix connector.

For sensor alignment, the X axis is aligned parallel to the package long dimension. The Z axis is aligned with the two through holes in the aluminum connector mounts. The system's Y axis is orthogonal to the X and Z directions. The output polarity sense of the axes is such that a field increase in the direction of the arrows produces an increase in the voltage output for that axis. In general, the magnetic axis of the Model 536 is orthogonal and aligned to within $\pm 0.2^{\circ}$ of the coordinate system specified by the outer package alignment surface and alignment holes.



Model 536

Miniature 3-Axis Fluxgate Magnetometer



Applied Physics
Systems

PHYSICAL

Width/Height	1.5" (38.1 mm)
Length (excluding connector)	2.775" (70.485 mm)
Weight	100 g
Connectors	Bendix P/N PT02A-12-10S, P/N PT06A-12-10P (SR)

ELECTRICAL

Power requirement	± 15 V
Power consumption	± 15 VDC at ± 60 mA
Initial offset	$< \pm 0.010$ V

ENVIRONMENTAL

Noise Level	0.03 nT RMS/Hz ^{1/2} 0.3 μ G RMS/Hz ^{1/2}
Frequency Response	DC to 400 Hz (-3 db)
Sensitivity	10 V/G
Dynamic range	± 1 Gauss
Temp. Coefficient Zero Output	$< \pm 3$ nT/ $^{\circ}$ C ($< \pm 30$ μ G/ $^{\circ}$ C)
Temperature Scale Factor	$< \pm 0.1\%$ Full Scale/ $^{\circ}$ C
Temperature Sensor Scale Factor	5 mv/ $^{\circ}$ K
Orthogonality Between Axis	$\pm 0.2^{\circ}$
Alignment of sensor package with sensor reference surfaces	$\pm 0.2^{\circ}$
Linearity	$\pm 0.2\%$

WIRE COLOR	FUNCTION	PIN CONNECTOR
Red	+15 VDC	H
Blue	-15 VDC	K
Green	Temperature	A
Orange/White	Y output	D
Yellow/White	Z output	F
Red/White	X output	E
Black	Ground	B, G

Specifications within this document are subject to change without notice.

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